

Title (en)

CUTTING INSERT WITH COOLANT DELIVERY AND METHOD OF MAKING THE CUTTING INSERT

Title (de)

SCHNEIDEEINSATZ MIT KÜHLMITTELAUSGABE SOWIE VERFAHREN ZUR HERSTELLUNG DES SCHNEIDEEINSATZES

Title (fr)

INSERT DE COUPE AYANT UN SYSTÈME DE DISTRIBUTION DE LIQUIDE DE REFROIDISSEMENT ET PROCÉDÉ DE FABRICATION DE L'INSERT DE COUPE

Publication

EP 2373452 A4 20150107 (EN)

Application

EP 10729398 A 20100104

Priority

- US 2010020012 W 20100104
- US 34902809 A 20090106

Abstract (en)

[origin: US2010172704A1] An assembly of components for forming upon consolidation of the components a cutting insert for use in chipforming and material removal from a workpiece wherein the cutting insert receives coolant from a coolant source. The assembly comprises a cavity member that presents opposite first and second rake surfaces and a flank surface. The cavity member further presents a first cutting edge at the juncture of the first rake surface and the flank surface. The cavity member further has a first depression in the first rake surface that is generally adjacent to the first cutting edge. The cavity member has a first cavity channel in communication with the first depression. The assembly also has a first core member that has a first core channel and a first flange wherein when the components are assembled, the first core channel is adjacent to the first cavity channel and the first flange is adjacent to the first depression. The assembly also has a second core member which has a second flange containing a fifth notch and the second core member further containing a fifth notch channel opening into the fifth notch. When the components are assembled, the fifth notch is adjacent to the second rake surface and the fifth notch channel is adjacent to the first cavity channel. Upon consolidation of the components, the cavity member, the first core member and the second core member join together so that the first depression and the first flange define a first fluid spray chamber, and the first cavity channel and the first core channel and the fifth notch channel join together to form a fifth internal fluid passageway, which provides fluid communication from the fifth notch adjacent to the second rake surface to the first fluid spray chamber adjacent to the first rake surface.

IPC 8 full level

B23B 27/16 (2006.01); **B23B 27/10** (2006.01); **B23C 5/20** (2006.01); **B23C 5/22** (2006.01); **B23C 5/28** (2006.01)

CPC (source: EP KR US)

B23B 27/10 (2013.01 - EP KR US); **B23B 27/145** (2013.01 - EP KR US); **B23C 5/202** (2013.01 - EP KR US); **B23C 5/28** (2013.01 - EP US); **B23C 5/282** (2022.02 - KR); **B22F 2998/00** (2013.01 - EP KR US); **B23B 2200/086** (2013.01 - EP KR US); **B23B 2250/12** (2013.01 - EP KR US); **B23B 2250/121** (2022.01 - EP); **Y10T 407/14** (2015.01 - EP US); **Y10T 407/23** (2015.01 - EP US); **Y10T 407/235** (2015.01 - EP US); **Y10T 407/245** (2015.01 - EP US)

C-Set (source: EP US)

B22F 2998/00 + **B22F 3/225**

Citation (search report)

- [I] US 2008175676 A1 20080724 - PRICHARD PAUL D [US], et al
- [A] EP 0100376 A2 19840215 - ROCKWELL INTERNATIONAL CORP [US]

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

US 2010172704 A1 20100708; **US 7955032 B2 20110607**; BR PI1004574 A2 20180206; CA 2744262 A1 20100715; CN 102271845 A 20111207; CN 102271845 B 20130904; EP 2373452 A2 20111012; EP 2373452 A4 20150107; IL 212730 A0 20110731; JP 2012514539 A 20120628; KR 20110108344 A 201111005; WO 2010080723 A2 20100715; WO 2010080723 A3 20101014

DOCDB simple family (application)

US 34902809 A 20090106; BR PI1004574 A 20100104; CA 2744262 A 20100104; CN 201080003962 A 20100104; EP 10729398 A 20100104; IL 21273011 A 20110505; JP 2011544639 A 20100104; KR 20117015537 A 20100104; US 2010020012 W 20100104